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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Christopher A. Wiklof

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EXAMINER

ALLEN, DENISE S

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/007,784	Applicant(s) WIKLOF ET AL.	
	Examiner Denise S Allen	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Arguments***

In the Applicant's response on July 22, 2004, the Applicant argues with respect to claims 1, 15, 21, and 33, that the disclosure is enabling and that the claims do not omit essential elements (pages 11 – 14). This argument has been fully considered and found to be persuasive. In light of the detailed discussion by the Applicant, the Examiner agrees that claims 1, 15, 21, and 33 are enabled by the disclosure and do not omit essential elements.

The rejections of claims 1 – 4, 7, 8, 15 – 22, 25, and 30 – 34 under 35 U.S.C. 112 (first and second paragraphs) as being based on a disclosure that is not enabling and as being incomplete for omitting essential elements in the Office Action on March 16, 2004 have been withdrawn.

The Applicant further argues with respect to claims 10, 26, and 36, that the disclosure is enabling and that the claims do not omit essential elements (pages 12 – 15). This argument has been fully considered and not found to be persuasive. The Examiner respectfully disagrees with the Applicant's argument. The scanner as disclosed includes a beam reflector with a first magnet, a beam sweep mechanism with a second magnet, **and** a shaft (reference 3050) about which the beam reflector rotates freely. Without the shaft the one and only magnetic force produced by the beam sweep mechanism on the beam reflector would result in only one motion (or scan) of the beam reflector and not a back and forth rotation. The shaft is essential for converting the one magnetic force into a back and forth rotation and is omitted in the claims. A scanner with a beam reflector that rotates back and forth as claimed without the shaft is not disclosed and therefore is not enabled by the disclosure.

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The Applicant further argues with respect to claim 1, that Dvorkis et al (US 5,280,165) fails to teach or reasonably suggest the beam sweep mechanism including a second permanent magnet and that one would not be motivated to replace the coil of Dvorkis et al with a second permanent magnet (pages 15 – 16). This argument has been fully considered and found to be persuasive. The Examiner agrees that a fixed permanent magnet would not produce the sweeping motion generated by the fixed coil of Dvorkis et al.

The rejection of claims 1 – 3 and 5 under 35 U.S.C. 103(a) as being unpatentable over Dvorkis et al in the Office Action on March 16, 2004 has been withdrawn.

The Applicant further argues with respect to claim 21, that Dvorkis et al fails to teach or reasonably suggest the beam sweep mechanism including a moving magnet and that one would not be motivated to make the coil of Dvorkis et al movable (page 16). This argument has been fully considered and found to be persuasive. The Examiner agrees that making the coil of Dvorkis et al movable increases complexity without providing any benefit.

The rejection of claims 21 – 23 under 35 U.S.C. 103(a) as being unpatentable over Dvorkis et al in the Office Action on March 16, 2004 has been withdrawn.

Claim Objections

Claim 20 is objected to because of the following informalities: claim 20 is unclear because it recites the beam reflector in a home position when the second magnet repels the first magnet, whereas the disclosure recites the beam reflector in a home position when the second magnet *attracts* the first magnet (paragraph 63 lines 5 – 6). Suggested correction: replace the word “repels” with “attracts”. For the purpose of examination this claim is interpreted to mean

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the home position is when the second magnet attracts the first magnet. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 5, 6, 9 – 14, 23, 24, 26 – 29, and 35 – 43 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The structural elements of the beam-reflector assembly that enable the beam reflector to rotate back and forth in response to the first magnetic force which are critical or essential to the practice of the invention, but not included in the claim(s) are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). A single magnetic force alone is insufficient to cause sweeping of a scan beam. Some structure is required to translate the magnetic force into the proper sweeping motion. The Applicant indicated the criticality of using only one magnetic force to activate the scan beam sweep in the response received December 19, 2003 (page 9 lines 9 – 26). The scanner as disclosed includes a beam reflector with a first magnet, a beam sweep mechanism with a second magnet, **and** a shaft (reference 3050) about which the beam reflector rotates freely. Without the shaft the one and only magnetic force produced by the beam sweep mechanism on the beam reflector would result in only one motion (or scan) of the beam reflector and not a back and forth rotation. The shaft is essential for converting the one magnetic force into a back and forth

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rotation and is omitted in the claims. A scanner with a beam reflector that rotates back and forth as claimed without the shaft is not disclosed and therefore is not enabled by the disclosure.

Claims 5, 6, 9 – 14, 23, 24, 26 – 29, and 35 – 43 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: structural elements that translate magnetic force into rotating/sweeping motion (see above).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 21, 22, 25, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Onimaru et al (US 5,252,816).

Regarding claims 1 and 21, Onimaru et al teaches a scanner (Figure 2), comprising a beam generator (reference 2) operable to generate a scan beam (reference 301); a beam reflector assembly (reference 6) having a first magnet (Figure 6A reference 6d to the right of reference H-H) and operable to sweep the scan beam (Figure 8); and a beam sweep mechanism (reference 2) having a permanent second magnet (Figure 6A reference 2b marked “N” and adjacent to the first magnet) and operable to activate the beam reflector assembly by exerting a first magnetic force and only the first magnetic force on the first magnet (in Figure 6A reference 2b marked “N” and adjacent to reference 6d repels reference 6d causing 6a to rotate about reference H-H).

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Regarding claim 2, Onimaru et al teaches the beam generator comprises a laser diode (column 3 lines 41 – 47).

Regarding claims 3 and 22, Onimaru et al teaches a beam detector (reference 4) operable to read a return beam (reference 302) reflected from a target (reference 9).

Regarding claim 25, Onimaru et al teaches a means for returning the beam reflector to a home position after sweeping the beam by moving the magnet to exert a second magnetic force on the beam reflector (Figure 6B).

Regarding claim 31, Onimaru et al teaches the first magnetic force comprises a repelling force (in Figure 6A reference 2b marked “N” and adjacent to reference 6d repels reference 6d causing 6a to rotate about reference H-H).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onimaru et al in view of Peng (5,600,120).

Onimaru et al teaches a scanner as described above. Onimaru et al does not teach a beam-reflector assembly comprising a multi-faceted mirror that is operable to reflect the scan beam onto a target.

Peng teaches a beam-reflector assembly (Figure 13) comprising a multi-faceted mirror (reference 22) that is operable to reflect the scan beam (reference 1) onto a target (reference 48)

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and is operable to rotate the mirror to sweep the scan beam across the target when the beam reflector assembly is activated by the beam-sweep mechanism (reference 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the beam-reflector assembly of Peng in the scanner of Onimaru et al in order to make multiply scans in one cycle of the beam sweep mechanism.

Claims 7, 8, 15 – 20, 30, and 32 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onimaru et al.

Regarding claims 7, 30, and 32, Onimaru et al teaches the beam-sweep mechanism deactivates the beam-reflector assembly by exerting a second force on the first magnet with a third magnet (Figure 6B reference 2b marked “S” and adjacent to reference 6d), the second force being opposite to the first force (in Figure 6B the third magnet attracts the first magnet). Onimaru et al does not teach the second force is exerted by the second magnet.

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the second and third magnets of Onimaru et al with one (second) magnet disposed tangentially on the drive cam (reference 2a) so that the respective north and south poles of the replacement magnet are positioned where the second and third magnets were positioned in order to reduce the number of magnets needed.

Regarding claims 8 and 20, Onimaru et al teaches the beam-sweep mechanism is operable to retain the beam-reflector assembly in a home position by exerting a second force on the first magnet with a third magnet (Figure 6B reference 2b marked “S” and adjacent to reference 6d), the second force being opposite to the first force (in Figure 6B the third magnet

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attracts the first magnet). Onimaru et al does not teach the second force is exerted by the second magnet.

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the second and third magnets of Onimaru et al with one (second) magnet disposed tangentially on the drive cam (reference 2a) so that the respective north and south poles of the replacement magnet are positioned where the second and third magnets were positioned in order to reduce the number of magnets needed.

Regarding claims 15 and 19, Onimaru et al teaches a scanner, comprising a beam generator (reference 3) operable to generate a scan beam (reference 301); a beam reflector assembly (reference 6) having a first magnet (Figure 6A reference 6d to the right of reference H-H) and operable to sweep the scan beam (Figure 8); and a beam sweep mechanism (reference 2) having a second magnet (Figure 6A reference 2b marked "N" and adjacent to the first magnet) configured for mechanical movement between a first position (Figure 6B) in which a third magnet (Figure 6B reference 2b marked "S" and adjacent to reference 6d) attracts the first magnet and a second position (Figure 6A) in which the second magnet repels the first magnet. Onimaru et al does not teach the second and third magnets are one magnet.

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the second and third magnets of Onimaru et al with one (second) magnet disposed tangentially on the drive cam (reference 2a) so that the respective north and south poles of the replacement magnet are positioned where the second and third magnets were positioned in order to reduce the number of magnets needed.

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Regarding claim 16, Onimaru et al teaches the beam generator comprises a laser diode (column 3 lines 41 – 47).

Regarding claim 17, Onimaru et al teaches the beam reflector assembly comprises a rotatable mirror (reference 6a).

Regarding claim 18, Onimaru et al teaches a scanner as described above. Onimaru et al does not teach a button coupled to the beam-sweep mechanism, the button designed to be pushed with an operator's thumb. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a button coupled to the beam-sweep mechanism, the button designed to be pushed with an operator's thumb in the scanner of Onimaru et al in order to provide an operator a means to initiate scanning.

Regarding claims 33 and 34, Onimaru et al teaches a scanner as described above. Onimaru et al does not teach that the beam sweep mechanism is non-motorized and human powered. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the beam sweep mechanism of Onimaru et al non-motorized and human powered in order to reduce the electrical requirements of the scanner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (571) 272-2305. The examiner can normally be reached on Monday - Friday, 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

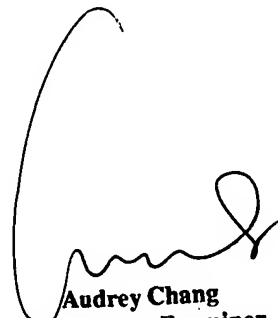
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Denise S Allen
Examiner
Art Unit 2872



dsa



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